



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

[Handwritten signature]

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/812,260	03/19/2001	Michael S. Dollard	72255/05459	8813

23380 7590 07/22/2004

TUCKER, ELLIS & WEST LLP
1150 HUNTINGTON BUILDING
925 EUCLID AVENUE
CLEVELAND, OH 44115-1475

EXAMINER

DEPPE, BETSY LEE

ART UNIT PAPER NUMBER

2634

DATE MAILED: 07/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/812,260	DOLLARD, MICHAEL S.	
	Examiner	Art Unit	
	Betsy L. Deppe	2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-49 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The drawings are objected to because in Figure 3, "USUABLE" in step 54 is misspelled. Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "50," "52" and "56." Corrected drawing sheets, or amendment to the

Art Unit: 2637

specification to add the reference character(s) in the description, are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:
- on page 7, line 9, "mulitplexing" is misspelled;
 - on page 10, line 31, "C2 than" should be "C2, then"; and
 - on page 10, line 33, a comma should be inserted after "generated."
- Appropriate correction is required.

Claim Objections

4. The claims are objected to because of the following informalities:
- in the claims, the numerous occurrences of "sub-carrier frequencies of the symbols" (for example, see claim 1, lines 4-5 and 8) should be "sub-carrier frequencies" for improved readability;

Art Unit: 2637

in claims 1, 11, 21, 31, 32, 34, 35, 37, 38, 40, 42, 43, 46, and 47, "communication device indicative of" should be "communication device wherein the data is indicative of" for clarification;

in claim 32, line 3, "the data" should be "the transmitted data" (see claim 31, line 7);

in claim 46, line 5, "include" should be "includes"; and

in claim 47, line 9, "a second" should be "the second."

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 31, 37 and 43 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Williamson et al. (US Patent No. 5,991,269). (See abstract; column 6, line 62 - column 7, line 42; and claims 1 and 15)

Art Unit: 2637

7. Claims 31, 37 and 43 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Hashem et al. (US Patent No. 6,721,569 B1). (See column 4, line 26 - column 5, line 24)

8. Claims 1, 2, 7-11, 12, 17-22, and 27-48 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Li et al. (US Pub. No. 2002/0119781 A1). (See the abstract; paragraphs [0007], [0024] - [0028], [0040], [0043]-[0047]; and claims 1 and 30)

9. With regard to claims 7, 8, 17, 18, 27, and 28, it is implicit that the determination of the SINR includes the evaluation of energy levels.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 3, 4, 13, 14, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. as applied to claims 1, 11, and 21, above, and further in view of Hashem et al. Li et al. discloses the claimed invention except the data indicative of sub-carrier frequencies including a bitmap.

Hashem et al. teaches using a bitmap to indicate which sub-carriers are acceptable. (See column 4, lines 53-65) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a bitmap in Li et al. to indicate

Art Unit: 2637

acceptable sub-carrier frequencies in order to efficiently identify which sub-carrier frequencies are acceptable.

12. Claims 5, 6, 15, 16, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. as applied to claims 1, 11, and 21, above. Li et al. discloses the claimed invention except for transmitting the data redundantly using a plurality of carriers. Since it is well-known that data is often distorted during transmission, it would have been obvious to one of ordinary skill in the art at the time the invention was made to transmit the data redundantly in order to increase the likelihood of the receiver recovering the transmitted data accurately.

Double Patenting

13. Applicant is advised that should claims 1, 2 and 10 be found allowable, claims 32-34 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

14. Applicant is advised that should claims 11 and 12 be found allowable, claims 38 and 39 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that

Art Unit: 2637

they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

15. Applicant is advised that should claims 21, 22, and 30 be found allowable, claims 43-45 and 47-49 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).


Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betsy L. Deppe whose telephone number is (703) 305-4960. The examiner can normally be reached on Monday, Wednesday and Thursday (8:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (703) 308-7728. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2637

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Betsy L. Deppe
Primary Examiner
Art Unit 2637